

A Plethora of YADs: Let's Hope They Point to a More Intelligent Future

Owen Ambur, September 4, 2017

[Dashboards originated](#) to protect passengers from being splashed by water and mud kicked up by horses powering carriages. With the advent of horseless carriages, the meaning of the term evolved to encompass gauges and controls reporting and supporting functioning of vehicles. [More recently](#), the word has been applied to information technology applications displaying indicators of the performance of myriad systems and organizations. In the context of business, [Wikipedia notes](#) the term is another name for progress reports providing “at-a-glance views of KPIs (key [performance indicators](#)) relevant to a particular objective or business process ...”

As vehicles become more “intelligent” and autonomous, their dashboards may increasingly come to resemble their IT cousins. However, unlike their vehicular instantiations, IT dashboards have not yet [matured](#) enough to provide [relatively standardized means](#) of reporting performance metrics. Thus, every day seems to bring Yet Another Dashboard (YAD) that not only reinvents the performance reporting wheel but also fails to support data sharing across organizations and systems. Google [turns up](#) about 300 million hits on the term “dashboards”. USA.gov doesn't provide a count but [reveals](#) hundreds, if not thousands in the .gov domain, including attractive [cattle](#) and [lamb](#) dashboards requiring [Adobe's soon-to-be deprecated Flash](#). GCN's own website [includes](#) more than 670 related articles, including [one](#) entitled “Building a better network for connected cars.”

That is not to suggest any of those dashboards do not provide value to their stakeholders, but to take the vehicular analogy a turn further, it is as if each organization is an autonomous end unto itself and doesn't need to worry about traversing public thoroughfares. That may be acceptable for private organizations, since consumers are free to spend their own money as they see fit and the [invisible hand](#) of the market may generate reasonably optimal outcomes for the parties to each transaction. However, among public agencies – coercively funded by taxpayers in accordance with *politically driven* mandates – behavior should be not only socially and fiscally responsible but also well-coordinated, both from the top down and from the bottom up. Surely, our agencies – across all levels of government – ought to be able to work together as intelligently as our cars, shouldn't they?

Whit Andrews of Gartner [has proffered](#), “artificial intelligence will penetrate the vast majority of applications and IT strategies ... because [of] the ability to improve from data and outcomes ...” However, that assumes data on outcomes can be readily shared and used to foster learning and facilitate continuous improvement. Matt Leonard [notes](#) AI can help to predict outcomes but it is not enough for machines to become more intelligent. Unless we plan to turn our fate over to machines, our organizations must learn and improve too. For them to do so, not only their leaders but also other stakeholders must be able to see, understand, and influence the results being generated – via performance reporting and management systems. Through those systems, AI should effectively [augment](#) the intelligence built into our institutions. Otherwise we will be condemned to reliving the mistakes of the past, perhaps faster and worse. [See, for example, *Time's* May 28, 2015, article entitled “How Bad Bots Are Destroying The Internet,” which reports “Last year was the first time in history that bots outnumbered people on the web.”]

Unfortunately, the record of government bureaucracy is not encouraging. More than 20 years ago, [Raines' Rules](#) (No. 5) directed agencies to “specify standards that enable information exchange ...” and similar guidance has been reiterated over the years, including in OMB Circular A-130, which explicitly directs agencies to [use open data standards](#). When he was deputy CIO at the Department of Health and Human Services, John Teeter proposed the inclusion of a planning and accountability domain in the National Information Exchange Model ([NIEM](#)). Yet little, if any thought was given to data exchange when the G.W. Bush administration’s [ExpectMore.gov](#) site was replaced by the Obama administration’s [Performance.gov](#) site, [built on Drupal](#), a content management system [touted](#) as enabling the creation of amazing, even loveable, digital experiences. Drupal is neither a data management nor data sharing system, much less a performance management system based upon an applicable data standard. Moreover, when taxpayer funding was used to develop an [application programming interface \(API\) for the Performance.gov site](#) after-the-fact, it proved to be unusable – because the performance indicators provided on the site were not linked to the goals and objectives.

That’s a contemporary [Catch 22](#): Why should we care that performance indicators cannot be linked to goals and objectives if a site is so alluring? In *Things That Make Us Smart*, Donald Norman [cautioned](#) the greatest peril is that of “experiencing when one should be reflecting ... where entertainment takes precedence over thought.” In politics, as [Lee Atwater famously asserted](#), perception is reality. However, just because the Wizard of Oz tells us to [ignore what’s behind the curtain](#) doesn’t mean we should be distracted by a “loveable” interface that fails to provide basic utility. Looking good is no substitute for performing well. Nor should a YAD be about [yada yada](#). Performance reporting systems should provide metrics about which stakeholders care, in ways that are readily discoverable, comprehensible, and usable to them, e.g. to provide input and feedback.

To the degree organizations may choose to use Drupal for performance reporting purposes, the Drupal community should be encouraged to build a module supporting the StratML standard ([ISO 17469-1](#) & [ANSI/AIIM 22:2017](#)). Indeed, the community could provide a very valuable public service by enabling Drupal users around the world to publish their website “about us” statements in StratML format.

Since the GPRM Modernization Act (GPRAMA) [requires a centralized site](#), some version of the Performance.gov site will likely persist. However, if past performance is any indicator of future results, the records on the site may not be maintained with any continuity across changing political administrations. According to a pop-up on the site, it is being reengineered, with the next release anticipated in February, when GPRAMA requires agencies to update their plans and publish them on their own websites in machine-readable format. Encouragingly, the August 1 release of OMB [Circular A-11](#), section 230.18, parenthetically notes the Performance.gov site is merely one example of the types of services to be enabled by publishing plans and reports in [machine-readable format](#).

As with the basic standards underlying [the Internet](#) and [the Web](#), publishing performance plans and reports in standard, machine-readable format will enable intermediaries to add value to the data for myriad communities of interest, far beyond any capability that might be provided by a single, centralized site. Making the original, authoritative versions of agencies’ plans and reports available on their own websites in open, standard, machine-readable format will also address the problem of maintaining those important records with continuity across administrations. [See “[Government performance data](#)”

[Let's make it open, machine-readable and permanent.](#)] Each of them should be designated as permanent records in the agencies' own NARA-approved [records schedules](#).

While records management is not among them, BetterBuys [outlines](#) three best practices for creating effective dashboards: Simplicity, Readability, and Focus. Tableau [identifies](#) five practices along with seven mistakes to avoid. The good practices are:

1. Choose metrics based on why they matter;
2. Keep it visual;
3. Make it interactive;
4. Keep it current or don't bother; and
5. Make it simple to access and use.

Mistakes include:

1. Starting off with too much complexity;
2. Using metrics no one understands;
3. Cluttering the dashboard with unimportant graphics and unintelligible widgets;
4. Waiting for complex technology and big BI deployment projects;
5. Underestimating the time or resources to create and maintain the dashboard;
6. Failing to match metrics to the goal; and
7. Using ineffective, poorly designed graphs and charts.

[See also [Dashboard Design Best Practices – 4 Key Principles](#), by Ilan Hertz; [A Guide to Creating Dashboards People Love to Use](#), by Juice Analytics; and Socrata's [Solutions for Performance Improvement & Accountability](#).]

[Capterra](#), which categorizes and provides advice on business software tools, lists a dozen features for comparison of the [dashboards indexed in their service](#):

1. Annotations
2. Data Source Integrations
3. Functions / Calculations
4. Interactive
5. KPIs
6. OLAP
7. Private Dashboards
8. Public Dashboards
9. Scorecards
10. Themes
11. Visual Analytics
12. Widgets.

While data integration capabilities are certainly useful in the near-term, they should not be taken as a long-term substitute for making performance reports available in open, standard, [machine-readable format](#) so the data they contain can be used directly, without the need for cumbersome and costly [extraction, transformation, and loading](#) (ETL) processes. Readily usable (user-centric) query/discovery

and input/feedback features should also be supported. [See Dan Chenok's [thoughts](#) on "Citizen engagement: a pathway for government reform."]

Capterra is referenced in a GCN [Online extra: Guide to data sharing tools](#), dated April 23, 2003. While much lip service has been paid to [data sharing](#) for many years, the lowly regarded so-called "do nothing" Congress has recently demonstrated real leadership in that regard – through legislation like the [DATA Act](#) and [section 10](#) of the GPRA Modernization Act (GPRAMA), both of which require data to be shared in machine-readable format. Sadly, the scientific community, which should be leading the way, [seems to be lagging](#). When former Vice President Biden announced the [Moon Shot to Cure Cancer](#), for example, he lamented the lack of coordination among cancer researchers and the prevalence of [data silos](#). [See also "[Scientists Have a Sharing Problem](#)," The Atlantic, December 15, 2014.]

Steve Ballmer [reportedly](#) spent \$10 million developing a YAD on Uncle Sam's performance, far more than would have been necessary if agencies had implemented GPRAMA's machine-readability requirement. Based upon the recent release of OMB Circular A-11, it appears the Trump administration will now expect agencies to comply. If so, the next question is how much more of the taxpayers' money will be wasted reinventing YADs that fail to implement the duly adopted national and international open data standard. With reference to [their namesake](#) in the Jewish tradition, let's hope YADs point to a more intelligent, if not necessarily a divinely inspired future.